

How Do I Determine If I Have Hazardous Wastes?

The starting point in hazardous waste management is determining if you generate a hazardous waste! This is very important because if it is hazardous, and you are disposing of it as non-hazardous, you will be liable for the consequences. As a generator of a hazardous waste, you are responsible for the management of that waste from the point that it is generated to the point that it is treated, stored, or disposed. This responsibility is commonly referred to as “cradle-to-grave”.



When trying to determine if you have a hazardous waste, you must first determine if you have a waste. (The physical state of the waste is not a factor-- a hazardous waste can be solid, liquid, or contained gas). Remember, if you don't have a waste, as defined in the *Rules*, you can't have a hazardous waste! The second way that your waste may fall out of regulation is if it's exempt. For example, used oil filters that have been adequately drained, are ***exempt*** from regulation. At the end of this document you can find a flowchart that will be helpful in answering the logical set of questions you should answer to determine if you have a hazardous waste.

Hazardous wastes fall into many categories. Some wastes are specifically ***listed*** in the *Rules* as hazardous. Other wastes may be regulated because they exhibit certain hazardous waste ***characteristics*** (ignitability, corrosivity, reactivity, toxicity) or because they are hazardous waste ***mixtures***. Even unused chemical products can be hazardous wastes if you decide they will never be used.

● *Types of Listed Hazardous Wastes*


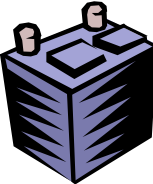

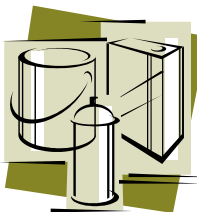
| Listed Wastes | Description | Examples |
|---|---|---|
| Discarded Chemical Products | An unused, discarded product that has one active ingredient, if listed on the Discarded Chemical Products Lists (described below) | <ul style="list-style-type: none"> ▪ Many pesticides ▪ Unrinsed containers ▪ Formaldehyde |
| | <p>Wastes in the Discarded Chemical Products category are further divided into two categories, “acutely” hazardous waste and “toxic” hazardous waste.</p> <ul style="list-style-type: none"> ▪ Acutely hazardous wastes are frequently called <u>P wastes</u> (waste numbers P001-P158) and are listed in Env-Wm 402.04. Examples include silver cyanide, phosphoric acid and aldicarb. ▪ Those discarded commercial chemical products, etc. that are not acutely hazardous are considered toxic. These wastes are frequently called the <u>U wastes</u> (waste numbers U001-U359) and are listed in Env-Wm 402.05. Examples include phenol, ethanol, and naphthalene. | |
| Hazardous Waste Derived from Processes | Hazardous Waste from generic activities (such as degreasing operations) listed in Env-Wm 402.06 and specific industry sources (such as organic chemical manufacturing) listed in Env-Wm 402.07. | <ul style="list-style-type: none"> ▪ Spent solvents used in degreasing ▪ Plating wastes Many wastewater sources (such as plating) ▪ Treatment sludges |
| | <p>Wastes in this category are further divided into “non-specific” sources and “specific” waste sources.</p> <p><u>Non-specific</u> waste sources are commonly called the <u>F wastes</u> (waste codes F001-F028) and include many common industrial wastes. Wastes in this category include halogenated and non-halogenated solvents, electroplating wastewater treatment sludges, spent plating solutions and many others.</p> <p><u>Specific</u> source wastes are commonly called the <u>K wastes</u> (waste codes K001-K148) and include many wastes which are produced by specific industrial processes. An example is the bottom sludge from wastewater treatment from wood preserving processes that use creosote and/or pentachlorophenol.</p> | |

● *How can you get these lists?*

They are found in the *Rules*; sections Env-Wm 402.04 through Env-Wm 402.07.

• **Characteristic Wastes**

If a waste is not exempted and not listed, it may still be a hazardous waste if it exhibits any of the four hazardous waste characteristics. Determining whether your waste exhibits any hazardous waste characteristics can be done by using your knowledge of the products used in the process generating the waste or by having it analyzed in a laboratory.

| Ignitable | Description | Examples | |
|------------------|--|---|---|
| (D001) | Liquids with a flash point less than 140° F, solids that are capable of causing a fire (through friction, absorption of moisture, or spontaneous chemical change), or any ignitable compressed gas. | <ul style="list-style-type: none"> ✓ Spent solvents ✓ Solvent still bottoms ✓ Ignitable paint wastes ✓ Waste gasoline ✓ Waste inks containing flammable solvents |  |
| Corrosive | Description | Examples | |
| (D002) | Substances with a PH ≤ 2 or ≥ 12.5 . Liquids that corrode steel at a rate greater than 0.25 inches per year are also considered corrosive. | <ul style="list-style-type: none"> ✓ Sulfuric acid batteries ✓ Plating wastes ✓ Sodium hydroxide |  |
| Reactive | Description | Examples | |
| (D003) | Substances that are very unstable and rapidly, or violently change when mixed with or exposed to air, water, heat, pressure, or other materials. These substances, especially cyanide or sulfide compounds, may generate toxic gases under mildly acidic or alkaline conditions. | <ul style="list-style-type: none"> ✓ Chromic acids ✓ Cyanide wastes ✓ Perchlorates ✓ Peroxides |  |
| Toxic | Description | Examples | |
| (D004-D043) | Wastes which, after testing by a laboratory through the Toxicity Characteristic Leaching Procedure (TCLP) are found to contain certain organic chemicals, pesticides, or heavy metals over specified limits. | <ul style="list-style-type: none"> ✓ Photographic processing ✓ Ink sludges ✓ Discarded pesticides ✓ Paint sludge ✓ Spent mercury |  |

The characteristic wastes are described in detail in Env-Wm 403.03 through Env-Wm 403.06

• **The Mixture Rule**

After checking to see if your waste is exempt, listed, or a characteristic waste there is one more group you have to see if you fall into. This is known as a hazardous waste mixture. This is a class of hazardous waste that is often forgotten by generators, yet is fairly common. Wastes that do not fit into any of the categories discussed earlier, but are

hazardous mixtures would receive a waste code of NH11. If they are hazardous for some other reason as well, the NH11 code would not be used.

There are two basic parts to the mixture rule. A hazardous waste mixture is any one of the following:

- A mixture that contains anything listed in “P”, “U”, “F”, or “K” lists. Remember that if they are mixtures with “P” or “U” listed wastes only, they would have to be mixtures of commercial chemical products; that is, unused materials.
- A mixture of any materials that have a hazardous characteristic as described in Chapter Env-Wm 403, and that still exhibit a characteristic after they become “mixed”.

Do You Still Have Questions On Identifying Your Wastes?

You may have accumulated wastes that you suspect to be hazardous, but for some reason the product information is not available or is incomplete and you are therefore unable to conclusively determine if it is a hazardous waste. Since the sole responsibility for determining if your waste is hazardous falls upon you, the generator of the waste, your only remaining alternative is to have a laboratory analyze your wastes.



You should ask the lab to perform only the tests needed to determine the waste type and the hazardous characteristics. The cost of analysis will depend upon the complexity of the tests needed to determine whether or not the wastes are hazardous. You can reduce your analytical costs by providing the laboratory with as much information as possible. Be sure to request approved EPA analysis methods and select a lab that is familiar and competent with these methods. You can contact DES at (603) 271-2942 to obtain a list of local laboratories that test hazardous waste and for help in determining what analysis may be most appropriate. If you test a waste once, and continue to use the same industrial process, you may apply those test results when designating future batches of the same waste. For example, if you test your paint waste once and find them to be non-hazardous, you may use this knowledge for future hazardous waste determinations on this paint waste.

Steps for waste identification:

1. Check the MSDS (Material Safety Data Sheet) for product information.
2. Inquire with your supplier/manufacturer.
3. Read the product label.
4. Compare product information with the listed wastes in Env-Wm 400.
5. If necessary, have a sample of the waste analyzed by a laboratory.

USED OIL

Another waste that can be generated at auto shops is used oil. Used oil is somewhat unique in its regulation. It is considered a hazardous waste in New Hampshire, but can be regulated much less stringently, depending on its source and level of contamination. Used oil may not require a waste code. If it is being recycled (burned for energy recovery or re-refined), it would be subject to some very basic management standards only; if it is not recycled, it would receive a waste code of NHO1, and would be subject to the same standards as other hazardous wastes.

Example

In many cases, used oil must be tested prior to recycling. Assume you generate used oil from two sources at your shop; from automotive oil changes and machine cutting oils. In New Hampshire, used automotive oil that is generated is not subject to a hazardous waste determination (unless it has been mixed with other wastes). If this is not the case, the following analyses must be performed, as noted in Env-Wm 807.02:

1. Total Halogens
2. Flash Point
3. Polychlorinated biphenyls (PCB's)
4. Arsenic, Cadmium, Chromium, Lead

This testing requirement is known as an initial used oil analysis. Remember that if the used oil is not burned for energy recovery or re-refined, it would require a full hazardous waste determination.

In this instance, the used oil from automotive service requires no testing. The cutting oil, however, is not automotive, and therefore, you are responsible for an initial used oil analysis.

Results of used oil analyses will “grade” the oil as one of three classifications; “specification” (the cleanest), “off-specification”, or “hazardous waste”. These classifications will determine what controls will be placed on management of the used oil, such as where it may be burned. Consult Env-Wm 807 of the Hazardous Waste Rules for a full discussion of this issue.

Other situations can arise. Commonly, service centers combine used oil with other wastes on-site, not realizing the consequences. If used oil is combined with a hazardous waste, such as parts washing solvents or spent gasoline, it will be necessary to perform a complete hazardous waste determination. If the used oil is found to be a hazardous waste, it can be very expensive to dispose of. Also, this determination can become quite expensive of itself, considering all the additional analyses that may be required. It is therefore, ill-advised to mix used oil with anything.